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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Joshi et al.
Serial no.: 10/541,011
I.A. Filed: December 29, 2003
Title: ENHANCED GENERATION OF HYDROXYL RADICALS
Examiner: Edna Wong
Art Unit: 1795
Confirmation: 9060

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir/Madam:

After-Final Response

This response is in reply to the final office action mailed on December 27, 2010.

Claims amendments:

Claim 1 has been amended to define the enhancement being “characterized by at least a two fold increase in percentage (%) of salicylic acid (SA) conversion as compared to % conversion of SA conversion as a result of treatment with UV only”. This definition is supported by the data presented in Figure 1, where it is clear that the effect of the quadruplet combination of MgO/H₂O₂/O₂/UV (“quadruplet combination”) is twice greater than the effect of MgO/H₂O₂/UV and even 4 times greater than the effect of exposure to UV only.

In addition, Claim 1 has been amended to clarify that the MgO and the pH adjustment are performed essentially together. In this connection, there is no significance to the order of addition of the two, i.e. the MgO may be added before or after pH adjustment as they are introduced one immediately after the other. The pH adjustment is required due to the effect of MgO on the pH and thus the two steps need to be performed in essence simultaneously.

Further, minor amendments were made in line with the Examiner's comments.

The Examiner maintains her obviousness rejection of claims 1, 5, 8, and 11-16 over Coury et al. in view of Giamello et. al. (“Primary rejection”); claim 19 over Primary rejection in further view of Jen et. al.; and claim 20 over Primary rejection in further view of Zhou et. al.

Giamello et al. describe the production of stable radicals making use of a H₂O₂/MgO system. The radicals formed by the H₂O₂/MgO system include three species, including *inter alia*, OH radicals. While it may be true that Giamello et al. describe “stable” radicals, it is noted that the stability is achieved only due to **trapping the hydroxyl radicals in the solid MgO matrix**. That conclusion is confirmed by Giamello wherein he wrote: